BRUHAT BANGALORE MAHANAGARA PALIKE

BILL OF QUANTITIES (BOQ)

NAME OF THE WORK:-Providing drinking water works in ward no. 8 in Byatarayanapura division.

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
1	**8.775**	KSRB 2-2.2: Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications.	cum	22.64	Rupees Twenty Two and Sixty Four Paise Only
2	**3.02**	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892cum and fine aggregates @ 0.465cum machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications.	cum	5449.68	Rupees Five Thousand Four Hundred Forty Nine and Sixty Eight Paise Only
3	**4.59**	KSRB 5.2-3 : Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar 1:6, stone hammered dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.	cum	4521.96	Rupees Four Thousand Five Hundred Twenty One and Ninety Six Paise Only
4	**1.38**	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.	cum	5405.40	Rupees Five Thousand Four Hundred Five and Forty Paise Only
5	**1.38**	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @0.46cum, with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls (any thickness) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.	cum	6491.88	Rupees Six Thousand Four Hundred Ninety One and Eighty Eight Paise Only
6	**3.64**	KSRB 4.2.8 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @0.46cum, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, return walls, walls (any thickness) including attached plasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.	cum	6650.64	Rupees Six Thousand Six Hundred Fifty and Sixty Four Paise Only

EXECUTIVE ENGINEER-4
KRIDL, BBMP DIVISION
BENGALURU-560 010

Executive Engineer
Byatarayanapura Division
BBMP, Bangalore-92

Signature of the contractor

Executive Engineer

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
7	22.44	KSRB 4-6.7 :Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for sides and soffits of beams, beam haunchings, cantilever girders, bressumers and lintels not exceeding 1 m in depth including cost of all materials, labour complete as per specifications.	Sqm	276.48	Rupees Two Hundred Seventy Six and Forty Eight Paise Only
8	18.72	KSRB 4-6.2: Providing and removing centering height more than 3.5 mtrs, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifications.	Sqm	338.04	Rupees Three Hundred Thirty Eight and Four Paise Only
9	2.88	KSRB 4.2.11 Providing and laying in position reinforced cement concrete of nominal mix 1:1.5:3 with 12mm and down size graded granite metal, machine mixed, well compacted for plain chajja of 8.5 cms. average thickness, upto ground floor level, including cost of all materials, labour, HOM of machinery, finishing, curing, complete as per specifications.	Sqm	555.12	Rupees Five Hundred Fifty Five and Twelve Paise Only
10	2.88	KSRB 4-6.10 :Providing and removing centering, shuttering, strutting, propping etc., for chajjas, corbels etc., including edges including cost of all materials, labour complete as per specification.	Sqm	291.60	Rupees Two Hundred Ninety One and Sixty Paise Only
11	0.50	KSRB 4.9.2 : Providing T.M.T steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 TMT Bars Fe 500	T	60534.00	Rupees Sixty Thousand Five Hundred Thirty Four Only
12	38.56	KSRB 5-14: Providing and constructing load bearing with solid concrete blocks having block density not less than 1800 kg/cum having a minimum avarage compressive strength of 4.00 Newton /sqmm conforming to I.S: 2185 (part-1): 2005 and constructed with CM 1:4 as per 2572:2005 including cost of materials, labour charges, scaffolding, curing hire charges of machinery etc., complete as per specifications KBS NO.5.4 - do - with solid concrete blocks of size 400 x200 x 200 mm	Sqm	1011.96	Rupees One Thousand Eleven and Ninety Six Paise Only
13	7.50	KSRB 7.5 : Providing and fixing pull and push type rolling shutters of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull operations complete including pulling hooks, 4Nos. handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8 m.	cum	3090.96	Rupees Three Thousand Ninety and Ninety Six Paise Only
14	3.00	KSRB 7.6: Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer coat of painting, materials, labour, HOM of machinery complete as per specifications.	Sqm	510.84	Rupees Five Hundred Ten and Eighty Four Paise Only

EXECUTIVE ENGINEER-4
KRIDL, BBMP DIVISION
BENGALURU-560 010

Signature of the contracotr

3/02
Executive Engineer
Byatarayanapura Division
BBMP, Bangalore-92
03/02

Executive Enginee

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
15	6.51	KSRB 7.14 : Providing, fabricating, assembling and fixing in position anodized aluminium partitions using sections in combination of plain, single grove and double grove as per requirements for the frames of overall size 101.6mm x 44.45mm, 3.l8mm.thick having section weight, plain sections 2.40kg/m single grove section 2.541kg/rn. and double grove section 2.683 kg/m and bottom member 114.3mmx44.45mm 3.18mm thick weight 2.646 kg/rn; aluminium louvres of size 77.6rnmx27.6rnm 1.7mm. thick section weight 0.483kg/rn; bottom portions provided with 12mm. thick prelaminated sheet both side of approved colour lamination exterior grade; aluminium sections of mat finish or glossy finish using section, spacing of vertical rnernber shall not exceed 0.6 m. c to c; sections are cut to the required lengths, joints mitered and corners grinded subdividing frames tennoned and rivetted to the frames, the assembled frame should be stiffened with corner angles stripped and fixed with screws, rawl plugs and teak wood gutties to R.C.C.columns or rnasonry on sides, R.C.C. lintels or bearns at top and floor at bottom, including cutting chistling and making good with cement mortar to match the surface, providing	Sqm	5030.64	Rupees Five Thousand Thirty and Sixty Four Paise Only
16	2.31	KSRB 7.16 Providing, fabricating, assembling and fixing in position anodized aluminium shutters to the existing door frame in the partition using 47.62x44.45mm section thickness 3.18mm, weight 1.505kg/rn for vertical frame; 47.62x44.45 thickness of 3mm, weight 1.42kg/rn for top section, 49.91 mmx44.45mm with wall thickness 3mm, weight 1.495kg/rn for central rail; and 11 4.3mmx44.45mm thickness 3.18mm, weight 2.646kg/rn for bottom rail using aluminium sections anodized 12 to 15 microns and cut to length joint metred and corners grinded, the bottom rail and top rail hinged or pivoted, opening arrangements including providing and fixing standard approved accessories, such as aluminium handles, tower bolts, lock, pivots: hinges P.V.C. or rubber gasket, 12mm prelaminated sheets (Novopan) exterior grade of approved colour both sides same colour for bottom panel of maximum height 0.90rn and 5.5mm thick plain glass for top panel (Novopan and glass fixed with glazed clips 19mmx17.3mmx11 mm, 0.9mm thick, weight 0.124kg/rn; aluminium sections treated for removal of any rust and prevention of further rust formation, and coated with greasy materials for non-adherance of mortars or any other sticky materials, including cost of materials, fixtures, labour and HOM of machinery complete as per specifications	Sqm	4290.84	Rupees Four Thousand Two Hundred Ninety and Eighty Four Paise Only
17	37.40	KSRB 15-3.8 : Providing 18mm thick cement plastering single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	Sqm	238.68	Rupees Two Hundred Thirty Eight and Sixty Eight Paise Only
18	17.58	KSRB 15-3-13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	Sqm	208.44	Rupees Two Hundred Eight and Forty Four Paise Only
19	56.39	KSRB 15-3.9 : Providing 18mm thick cement plastering single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.	Sqm	213.84	Rupees Two Hundred Thirteen and Eighty Four Paise Only
20	2.88	Providing and laying/fixing cement base, precast, pre polished cement concrete, designer tiles 25mm thick conforming to IS 1237 heavy duty tiles for flooring, treads of steps and landing, laid on a bed of 12mm thick cement mortar 1:3 mis finished with flush pointing using white cement, including cost of materials, including cutting, griding the edge to half/full round wherever required, labour, curing complete as per specification.	Sqm	1171.80	Rupees One Thousand One Hundred Seventy One and Eighty Paise Only

EXECUTIVE ENGINEER-4
KRIDL, BBMP DIVISION
BENGALURU-560 016

Executive Engineer
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BBMP, Bangalore-92

03/02

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
21	**54.50**	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after throughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.	Sqm	76.68	Rupees Seventy Six and Sixty Eight Paise Only
22	**56.39**	KSRB 15-16.1 : Providing and finishing external walls in two coats with waterproof cement paint with primer of approved brand and shade to give an even shade after throughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications. - with primer	Sqm	90.72	Rupees Ninety and Seventy Two Paise Only
23	17.10	KSRB 15-18.2: Providing and applying enamel metal paint two coats (excluding priming coat) over new steel or other metal surface brushing to give an even shade after cleaning oil, grease, dirt and other foreign matter, including cost of materials, labour, complete as per specifications.	Sqm	88.56	Rupees Eighty Eight and Fifty Six Paise Only
24	**24.00**	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (internal work exposed on wall) - 25mm nominal OD pipes	M	183.60	Rupees One Hundred Eighty Three and Sixty Paise Only
25	**36.00**	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (internal work exposed on wall) - 20mm nominal OD pipes	M	145.80	Rupees One Hundred Forty Five and Eighty Paise Only
26	**5.00**	KSRB 13-6.2-2 : Providing and fixing in position brass stop cock of approved quality 20mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications.	Each	172.80	Rupees One Hundred Seventy Two and Eighty Paise Only
27	**14.00**	Providing and fixing of Aluminium composite panel of approved make and colour for wall cladding for straight Brick/Rcc/stone walls & coloumns/beams with necessary aluminium frame works at required level made out of 50x25x3mm C section or equalent. The panel should consist of 2.5 mm thermoplastic core of antitoxic LDPE sandwiched between 0.25 skins thick aluminium sheet making a total panel thickness of 3mm. The surfaces will be finished with PVDF based coating on topsides and service coating on reverse sides would be in polyester paint. The system shall be fixed using GI brackets, aluminium L cleats and stainless steel bolts and nuts complete with spring washer and cap nuts and all other necessary accessories, sealing shall be done using weather sealant of Dow Corning 789 with necessary rods etc., complete.	Sqm	4861.08	Rupees Four Thousand Eight Hundred Sixty One and Eight Paise Only

EXECUTIVE ENGINEER-4
KRIDL, BBMP DIVISION
BENGALURU-560 010

Executive Engineer
Byatarayanapura Division
BBMP, Bangalore-92
03/02

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
28		**R O PLANT** Providing Reverse Osmosis System to cover 2000 liters of High TDS TECHNICAL Specifications Flow Rate: Feed Water : 5000LPH Treated Water : 3000LPH Reject Water : 2000LPH **RAW WATER PUMP** Purpose :- To feed the Dual Media Filter at pressure more than 2.0 bars, which is min. operating pressure for filter ? **SAND MEDIA FILTER** Purpose :- to remove the total suspended solids, dirt,iron and reduce silt density index which can foul the members. **ACTIVATED CARBON FILTER** Purpose:- To remove the total color, smell, odor, from the water. Media : Mixed bed sand media consisting of the following i) Gravel ii) Pebbles iii) Carbon Average porosity 50 micron particulate size bed depth: 1500mm Pipelines & Accssories: Pipe of PVC 10 Bar tested pressure Testing cock & pressure guages at Inlet-Outlet of system.			
29	1.00	MICRON FILTER Purpose:- To remove the fine particles up to 05 microns and reduce silt density levels to acceptable level. HIGH PRESSURE PUMP Purpose:- To feed the reversw Osmosis Membrane at pressure more than the osmotic pressure taking into cosideration flux rate,flow and recovery RO membrane Housing. Purpose:- pack membrane and operatet high pressure. RO MEMBRANES Purpose:- To remove the major part of TDS into 98% by Reverse Osmosis Membranes arranged and designed to give adequate flow and recovery. **RO CLEANSING SYSTEM.** **ELECTRICAL PANEL** Purpose:- A Control panel is provided as a safety measure for the pumps & other electrical items Specifications a) Complete Starters, overload relays, b) Voltmeter, Ammeter, MCB's indicating lights c) Rockers switches for Dozers d) Incomers, Auto- manual switches. **INSTRUMENTATION** Purpose:- A) Flow Meter: To measure the online flow of water flowtec b) Low pressure switch : To protect RO Pump from dry running c) High pressure switch: to protect RO pump from back pressure d) Pressure Gauges: For claculate AP for each unit in RO system. **PH DOSING SYSTEM** Purpose TO DOSE SODIUM Bi-cabonate for enhances product water SS	No	810000.00	Rupees Eight Hundred Ten Thousand Only
30	4.00	For Electrical Works Supplying and wiring adopting loop system in existing PVC Conduit/casing capping using copper PVC insulated multi strand 2x1.5 Sq mm copper wire with a 6 Amps flush type SP control switch shall be fixed on the existing plastic sheet gang box, the other end of the wires shall be terminated with sufficient loose length in a wood/PVC round block complete for each outlet. (P.5/I.2.1 PWD,ELE -SR 2014-15). Medium point above 3 Mtrs up to 6 Mtrs from tapping point to out let via switch	Point	245.00	Rupees Two Hundred Forty Five Only
31	4.00	Long point above 6 Mtrs up to 10 Mtrs from tapping point to out let via switch	Point	363.00	Rupees Three Hundred Sixty Three Only

EXECUTIVE ENGINEER-4
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BENGALURU-560 010

Signature of the contracotr

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BBMP, Bangalore-92

Executive Engineer

Sl. No.	Approved Qty.	Description	Unit	Issued to Technical Manager , KRIDL	
				In Figures	In Words
32	4.00	Supplying 6A flush/projected type socket and 6 amps flush/projected type SP switch either surface/flush mounting in a existing gang box or in a 4mm thick plastic sheet and fixing over a flush mounted wooden box and wiring using necessary capacity wires as required. 6 Amps 2 Way	No	127.00	Rupees One Hundred Twenty Seven Only
33		Supplying and flush mounting teak wooden box without front plank, made of not less than 12mm thick wood, after due groove cutting, Finishing with necessary cement plastering complete.	Each		
34	4.00	4"x4"x3"		68.00	Rupees Sixty Eight Only
35	4.00	12"x12"x3"		116.00	Rupees One Hundred Sixteen Only
36	4.00	10"x7"x3"		87.00	Rupees Eighty Seven Only
37	20000.00	Supplying 4mm thick plastic sheet with necessary nitches for fixing switches regulators etc., and fixing on existing wooden or metal box using N.F. screws.	Sqcm	0.22	and Twenty Two Paise Only
38	12.00	Extra for Groove cutting in brick wall/CC floor to the suitable depth for concealing of Conduit/GI pipe and plastering, finishing upto wall surface complete . (P.3/I.1.7.1 PWD,ELE -SR 2014-15) upto 50mm conduit in brick wall	Mtr	21.00	Rupees Twenty One Only
39	12.00	Concealed Conduit System Supplying heavy gauge PVC conduit pipe 20mm dia 2mm thick confirming to IS 2509 with suitable size bends, metal/PVC junction boxes, adhesive paste etc., and running before concreting the slab. The conduit should be tied to the reinforcement rods by using binding wires and unused ways of junction boxes and pipe ends should be covered using PVC end enclosures, run with 18SWG GI fish wire wherever necessary	Each	43.00	Rupees Forty Three Only
40	1.00	Supplying and fixing PBBC/Bakelite straight or slant batten holder and wiring with 60w/230 volts lamps.	Each	88.00	Rupees Eighty Eight Only
41	2.00	Supplying patti type fluorescent tube light fitting of 4' -suitable for 28 watts fluorescent tube fitting, made out of M.S. Sheet and stove enameled with HF Electronic Ballast , locking type brass contact holders mounted on double fold type sheet base fully wired for use on 230 volts AC . Supply including T5 lamp.	Each	669.00	Rupees Six Hundred Sixty Nine Only
42	12.00	Wiring for lighting / power circute using one of PVC insulated 1100v/grade multies and copper conductor single core cable in open or consealed system of wiring A Group materials 1.50 Sqmm materials	Rmtr	18.60	Rupees Eighteen and Sixty Paise Only
43	4.00	Supplying and fixing cast Aluminum round or oblong type bulk head fitting with GI wire guard, glass cover with 60/100 watts 230V GLS lamp.	Each	747.00	Rupees Seven Hundred Forty Seven Only

1. The work should be executed as per the specification and standard specified by the PWD & Other specifications of the Bangalore Mahanagara Palike and as directed.
2. The work should be carried out as per the directions and instructions of the concerned Engineer
3. The Contractor should maintain the quality of work as per the standard specifications.

Executive Engineer (Byatarayanapura)
Bruhath Bangalore Mahanagara Palike
3/02

I am prepared to take up the above work at the rates quoted by me in the Schedule 'B'.

Executive Engineer
Byatarayanapura Division
BBMP, Bangalore-92
03/02

CONTRACTOR

EXECUTIVE ENGINEER-4
KRIDL, BBMP DIVISION
BENGALURU-560 019